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202301UECM14040E3b

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Review of preview

Started on	Monday, 20 March 2023, 10:30 PM
Completed on	Monday, 20 March 2023, 10:30 PM
Time taken	7 secs
Grade	0 out of a maximum of 10 (0%)

1

Marks: 1

A loan of 5000 at a nominal rate of 18% convertible monthly is to be repaid by six monthly payments with the first payment due at the end of 1 month. The first three are x each, and the final three payments are $3x$ each. Determine the sum of the principal repaid in the third payment and the interest paid in the fifth payment. _____

Answer:

✗

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Incorrect

Correct answer: 418.971613

Marks for this submission: 0/1.

2

Marks: 1

A borrower and a lender agree to the following arrangement: The borrower will pay annual interest to the lender for 11 years at 8%. The borrower will pay 120% of the original loan amount to the lender at the end of 11 years by making 5 annual deposits in a SF earning 6%. After making the 5 deposits, the SF grows with interest only. The total annual payment made by the borrower in the first 5 years is 17,000. What is the amount of the loan? _____

Answer:

✗

[Make comment or override grade](#)

Incorrect

Correct answer: 73890.890737

Marks for this submission: 0/1.

3

Marks: 1

A 20-year loan of 20,000 may be repaid under the following two methods:

- amortization method with equal annual payments at an annual 1 effective rate of 5.9%.
- sinking fund method in which the lender receives an annual effective rate of 7.8% and the sinking fund earns an annual effective rate j .

Both methods require a payment of X to be made at the end of each year for 22 year. Calculate j . _____

Answer:

✗

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Incorrect

Correct answer: 0.1884

Marks for this submission: 0/1.

4

Marks: 1

Justin and Maggie each take out a 15-year loan L . Justin repays his loan using the amortization method, at an annual effective interest rate of i . He makes an annual payment of 1000 at the end of each year. Maggie repays her loan using the sinking fund method. She pays interest annually, also at an effective interest rate of i . In addition, Maggie makes level annual deposits at the end of each year for 15 years into a sinking fund. The annual effective rate on the sinking fund is

4.0%, and she pays off the loan after 15 years. Maggie's total payment each year is equal to 8% of the original loan amount. Calculate L. _____

Answer: X

[Make comment or override grade](#)

Incorrect
Correct answer: 11929.304897

Marks for this submission: 0/1.

5 
Marks: 1

John borrows X and repays the principal by making 14 annual payments at the end of each year into a sinking fund which earns an annual effective rate of 7%. The interest earned on the sinking fund in the 5th year is 105.57. Calculate X. _____

Answer: X

[Make comment or override grade](#)

Incorrect
Correct answer: 7659.991293

Marks for this submission: 0/1.

6 
Marks: 1

A borrower is repaying a loan at 9% effective with payments at the end of each year for 12 years, such that the first year's payment is 960, the second year 912.0, and so forth, until the 12th year it is 432.0. Find the principal and interest in the 6th payment. _____

Answer: X

[Make comment or override grade](#)

Incorrect
Correct answer: 451.64

Marks for this submission: 0/1.

7 
Marks: 1

A loan of 51,000 is being repaid by a 35-year increasing annuity-immediate. The initial payment is K, and each subsequent payment is K larger than the preceding payment. Determine the principal outstanding immediately after the 10th payment, using an annual effective interest rate of 6%. _____

Answer: X

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Incorrect
Correct answer: 72603.32806

Marks for this submission: 0/1.

8 
Marks: 1

Don takes out a 20-year loan of L, which repays with annual payments at the end of each year using the amortization method. Interest on the loan is charged at an annual effective rate of i. Don repays the loan with a decreasing series of payments. He repays 2,000 in year one, 1,900 in year two, 1,800 in year three, ..., and 100 in year 20. The amount of principal repaid in year three is equal to 1037.13. Calculate L. _____

Answer: X

[Make comment or override grade](#)

Incorrect
Correct answer: 13755.62

Marks for this submission: 0/1.

9 
Marks: 1

A 15-year loan of 3000 is to be repaid with payments at the end of each year. It can be repaid under the following two options:

1. Equal annual payments at an annual effective rate of 6.7%.
2. Installments of 200.0 each year plus interest on the unpaid balance at an annual effective rate of i.

The sum of the payments under option (1) equals the sum of the payments under option (2). Determine i. _____

Answer: X

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Incorrect
Correct answer: 0.076981

Marks for this submission: 0/1.

10

Marks: 1

Annie borrows 13,920 from Bank X. Annie repays the loan by making 24 equal payments of principal at the end of each months. She also pays interest on the unpaid balance each month at a nominal rate of 12%, compounded monthly. Immediately after the 19th payment is made, Bank X sells the rights to future payments to Bank Y. Bank Y wishes to yield a nominal rate of 12%, compounded semiannually, on its investment. What price does Bank X receive? _____

Answer:



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Incorrect
Correct answer: 2888.643536

Marks for this submission: 0/1.

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